

## Is Politeness Catalytic and Contagious? Effects on Participation in Online News Discussions

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### Abstract

*This study investigates how the politeness strategies of readers who comment on online news articles influence the participation and politeness behaviors of subsequent readers. We analyzed comments and replies collected from a South Korean news aggregator using a computer-mediated discourse analysis approach [15]; the gender of commenters was considered as a potential moderating factor. Results show that the politeness of comments did not affect the frequency of replies, and violations of politeness were prevalent in replies to all types of comments and addressees, especially in threads with mostly male participants. However, significant differences were found in responses to polite comments in male-dominant versus female-dominant discussions. Polite comments served as a catalyst for active participation by repliers, but only when men dominated the discussions, and these comments elicited harsh replies. Conversely, only when women participated more did any replies tend to use polite language, and that was only when addressing the original commenter.*

### 1. Introduction

The interest of this study resides in a problematic phenomenon that occurs in online public discourse – abusive postings. Linguistic violence in user comments is emerging as a serious issue, with, for example, the increasing incidence of online harassment in comment sections of news articles [33]. While anonymous commenting guarantees readers freedom of expression on social issues, the potentially severe harm that verbal violence causes to its victims is in itself a social issue that has attracted attention in the fields of sociology, psychology, and law. In this paper, we explore the dark side of comment sections in the context of South Korea, a country suffering from this problem currently.

Out of nine countries in the Asia-Pacific region, South Korea shows the greatest reliance on online news media (especially news portals), along with Malaysia [34]. Yet, commenting participation in Korea

is relatively low, ranked 8th among the same countries. The reason may lie in the content of comments on online news. In a recent national survey, more than 80% of respondents complained that insensitive and inconsiderate user comments make people angry and cause social conflict [19]. Relatedly, the National Policy Agency reports that criminal cases resulting from abusive comments have increased dramatically in Korea, with an increase of 70% from 2014 (8,880) to 2015 (15,043). Online verbal abuse in comment sections often victimizes celebrities and ordinary people covered in the news media. Given that the proportion of men to women among commenters on Korean news portals is six to four [19], abusive comments are possibly related to the gender factor. This study explores the relationships between impolite comments on news articles and subsequent reader replies, taking into account the gender of commenters.

Korean scholars have addressed the problem of online impoliteness using various research methods, including surveys [e.g., 21], experiments [e.g., 23], and content analyses [e.g., 8]. However, these studies tend to reconfirm the prevalence of negative comments without taking into account the specific language used in such comments. Moreover, most studies do not analyze replies to comments, which, unlike the comments themselves, tend to respond to other readers rather than to the news articles. Analyses limited to comments may capture only fragmented discussions that lack a common thread. Last but not least, previous studies have focused mainly on articles about politics or on news publishers with specific political interests.

The method used in this study addresses these gaps. To gain a deeper understanding of what is actually happening in news comment sections, we conducted a computer-mediated discourse analysis [15] focusing on two levels of analysis: a) participation, or amount of engagement in online discourse and b) social function, specifically the analysis of face-managing and face-threatening language. These analyses are combined to elucidate how the politeness of a comment affects subsequent discussants' engagement and politeness behavior. To do this, we consider sequences of

messages constituted by comments and replies, which allows us to capture the common theme running through a discussion, as well as interactions among the participants. Our data come from diverse articles offered by various news publishers, as presented on the most popular news aggregator in South Korea, *Naver News*. This site is accessed by 66% of Koreans at least once a week [34] and attracts a general readership with a range of demographic characteristics and political inclinations. The highest proportion of readers commenting on *Naver News* is men in their 30s, with men accounting for 79.7%, and people in their 30s accounting for 32%, of commenters [19].

This study is organized around three major research questions. The first question asks whether different politeness strategies used by comments affect the participation levels of subsequent repliers. The second asks whether the politeness strategies of comments and replies are related to one another, and whether replies vary in their level of politeness depending on comment politeness. Finally, the third asks whether repliers use different politeness strategies for different categories of addressees. Each of these questions is considered in relation to a contextual factor: the numerical gender dominance of commenters, i.e., which gender posts comments more frequently on a given article.

The results of the investigation reveal that participation by repliers does not vary across threads where the comments use different politeness strategies. However, a meaningful difference was found in male-dominant versus female-dominant threads in replies to polite comments. Violations of politeness were prevalent in replies to all types of comments and addressees, especially in male-dominant threads. In contrast, replies to the commenter of each thread tend to observe politeness in female-dominant discussions.

## 2. Politeness and participation in online public discourse

Research on online verbal abuse has examined user-generated comments in blogs [2, 10], news websites [8, 11, 20], and YouTube [22], mostly focusing on the concept of incivility, which appears closely related to impoliteness. Although the two concepts are often used interchangeably in everyday conversation, they are conceptualized in distinct ways in the literature. [32] contends that, “civility is positive collective face; that is, deference to the social and democratic identity of an individual,” while “incivility can be defined as negative collective face; that is, disrespect for the collective traditions of democracy” (p. 267). [32] considers politeness/impoliteness, in contrast, as a reflection of emotion in relation to the management of one’s public identity. In this view, civil

messages do not simply adhere to polite language usage, and impoliteness in a message does not necessarily lead to uncivil consequences.

Taking this distinction between the two concepts into account, this study draws on [5]’s conceptual framework of linguistic politeness, which has been invoked extensively in the literature on language usage, including in research that analyzes non-English content [e.g., 26]. This theory distinguishes between positive and negative politeness, based on its core assumption that individuals seek the public self-image (i.e., ‘face’) that they want to claim for themselves in two ways. On the one hand, they want to be desirable to and appreciated by others (i.e., ‘positive face’); on the other hand, they also want their thoughts and actions to be respected and unimpeded by others (i.e., ‘negative face’). [5]’s theory is well suited to research on computer-mediated communication (CMC), given that people perform face-work with considerable frequency in online environments, as they do in face-to-face settings [29]. In particular, face-threatening acts are common in CMC, often taking the form of disagreements, criticism, and directives to addressees. Their linguistic realizations often violate politeness norms, an observation attributable to the reduced social cues available in textual CMC [25].

A number of studies have applied [5]’s framework to CMC contexts, ranging from text-based online discussion forums [6, 31], computer bulletin boards [17], and email communities [12, 36], to trading sites [4] and social media [7, 24]. However, attempts to use this framework to examine comment sections are relatively few. A recent study of online news comments [27] drew on [5]’s theory, but it did not incorporate the concepts of positive and negative politeness, and it conflated the terms impoliteness and incivility. The politeness analysis of the present study contributes to the literature on online public discourse by expanding [5]’s approach to comment research in a nuanced and systematic manner.

The notions of politeness described by [5] were operationalized by [13], who distinguishes four types of politeness behavior: observation of positive politeness (abbreviated as +P), observation of negative politeness (+N), violation of positive politeness (−P), and violation of negative politeness (−N). Each category of politeness strategy includes different kinds of speech acts that communicators utilize to enhance or threaten each other’s positive and negative faces during social interaction. This makes [13]’s operationalization useful for the investigation of the language use of commenters on online news articles.

Specifically, we investigate whether polite (+P, +N) and impolite (−P, −N) comments influence other readers’ participation in discussions in different ways.

Empirical evidence from past studies has been inconsistent as regards this question. Whereas [3] found that uncivil comments on news stories on political blogs made readers less willing to join the discussion as well as less likely to actually participate, [38] reported that offensive comments in online news discussions increased the chance of a subsequent user responding. Meanwhile, [28] found no relationship between comment quality and participation activity; although people perceived uncivil political discussions as less credible, this negative evaluation had no impact on their intention to participate. Finally, [37] examined predictors of active participation and interactivity in news comment sections, but the investigation was confined to the characteristics of news articles (e.g., facticity of a news item, proximity of a news event).

Lacking a firm basis for conjecturing how polite and impolite comments will affect others' subsequent participation in our data, this study proposes several research questions in lieu of directional hypotheses.

RQ1: How, if at all, do the politeness strategies used in comments affect the participation level of the replies that those comments receive?

In assessing the effects of comment politeness, previous studies have typically concentrated on the amount of participant discussion but paid little attention to how the quality of the participants' messages might also be affected. Hence, this study also explores whether a commenter's politeness behavior induces repliers to employ similar or different politeness strategies. A replier might use the same politeness strategy when he targets the same addressee as the commenter (e.g., a politician in the news article). When the replier addresses the commenter, however, he may be more likely to use +P if he agrees with the comment and -P to express disagreement, regardless of the politeness strategy used in the original comment.

In the latter case, repliers may utilize additional discourse strategies to intensify their face-threatening acts. [11] found that five types of incivility are common in English news discussions, with more than one out of every five comments being uncivil and 55.5% of the article discussions containing at least some incivility. The most prevalent form of incivility was name-calling, followed by vulgarity, aspersions, disparagement of speech, and lying. Although the researchers found that uncivil comments resulted in more negative responses from readers than did civil comments, what they measured were the reactions to comments (thumbs up/down ratings), rather than replies to comments. Hence, this study explores the relationships of comment politeness to reply politeness as well as to the incivility level of the reply. To avoid

confusion between the concepts of politeness and civility, we use the term *discursive incivility* to refer to a "disrespectful tone toward the discussion forum, its participants, or its topics" [11, p. 660], operationalizing it in terms of the five varieties of ill-mannered language described by [11].

RQ2: How, if at all, do the politeness strategies used in comments affect the politeness strategies and level of discursive incivility of the replies those comments receive?

At the same time, the politeness strategies used in replies may also vary according to the types of addressees they target (e.g., people mentioned in news articles, other discussants, public). In contrast to comments, replies are primarily intended for a certain commenter in the same thread, thus the most frequent addressee of replies is likely to be that commenter. However, if replies target other types of addressees, like subjects covered in news articles or earlier repliers responding to the same comment, they may adopt different politeness strategies from what they would use for the commenter. Due to the paucity of previous research that addresses these issues, this study asks:

RQ3: Do replies targeting different types of addressees vary in their use of politeness strategies?

In addition to these three research questions, the study incorporates a contextual factor that may moderate the discourse strategies used, namely, the gender dominance of commenters on a given news story. Previous research has found that men comment online more than women [35], and men are more likely than women to "flame," or post hostile content targeted at their addressees [1]. At the same time, in a study of English-language discussion forums, [14] found that the numerically predominant gender determined the overall language style of the discussion, such that women tended to be more contentious in male-dominant forums, and men tended to be less contentious in female-dominant forums, relative to each gender's normal behavior.

Women and men in Internet discussion groups differ not only in actual behavior but also in their assessments of appropriate and inappropriate behavior. [13] found that while women assigned more value to polite behaviors and behaved accordingly, men often violated politeness norms and behaved in accordance with other communicative values, such as vigorous debate and freedom from censorship. Similarly, [16] found that emails written by men showed violation of politeness more frequently than emails written by women. [13] also found differences in what responses each gender preferred. For example, women liked

expressions of appreciation but disliked flaming responses, while men liked candor but disliked rules and requests by others, which threaten their negative face. [7] found gender differences in responses to two types of threats to positive face – rejection and criticism – on social-networking sites. Both face-threatening acts triggered retaliatory aggression, which was more salient among men than women.

Given this body of literature showing that politeness strategies tend to differ by gender, this study asks whether the answers to the above questions (RQ1-3) differ between male-dominant and female-dominant threads in our data.

RQ4a-c: Do the relationships between a) comment politeness and reply participation, b) comment politeness and reply politeness, and c) reply politeness and addressee type vary according to the gender dominance of commenters?

### 3. Methodology

#### 3.1. Data

The data were collected from the South Korean news aggregator *Naver News*, which presents articles from 209 news publishers and readers' responses to each article. Like on traditional news websites, the comment section on the website appears at the end of each article and can be viewed by any visitor to the site. The comment section includes multiple threaded discussions, each of which consists of two kinds of postings: comments, and replies attached to the comments. Any reader can submit a comment or reply to others' comments if they are logged in.

A stratified systematic sampling method was adopted for the data collection. First, 70 news articles were selected from the weekly archive of the most commented articles, or 'Ranking News.' This archive shows the top 30 articles in each of seven news sections (politics, business, society, life/culture, world, IT/science, and entertainment) that were posted during the corresponding week and that received the greatest number of comments from readers for that week. From each list for the last week of August to December 2016, the top two most-commented articles in each of the seven news sections were selected. Next, the most-replied-to comment and its top 10 replies were collected from each article. In all, 70 threads were analyzed, which was equivalent to 70 comments and 700 replies, for a total of 1,738 utterances.

#### 3.2. Coding

Both the comment/reply and the utterance (roughly corresponding to a sentence in a comment/reply) were

taken as units of analysis. Each comment/reply was assigned a unique identifier (e.g., "1" for the comment on the first article; "1-1" for the first reply to the comment on "1"). Each comment was coded for a) the salient politeness strategy used, b) the total number of responses from readers, c) the activity level of replies (i.e., the number of replies posted per hour), and d) the average length of replies to the comment. Each reply was also coded for a) the salient politeness strategy used, b) the discursive incivility level of the reply, and c) the type of addressee targeted by the replier. Finally, each thread was coded for the gender dominance of the commenters, as explained further below. For politeness strategies, discursive incivility, and addressee types, another coder who is a native speaker of Korean independently coded 10% of the data after receiving training for the coding scheme, in order to obtain inter-rater reliability measures (Krippendorff's alpha).

**3.2.1. Politeness strategies.** Each utterance in each comment/reply was coded for five types of politeness strategy [13], including +P, +N, -P, -N, and N/A (neither polite nor impolite). Before coding, a native-English speaker coded some of the data that had been translated into English, and we confirmed the consistency of the coding results between the Korean contents and the translated English contents, to mitigate potential concerns about the application of an English-based framework to Korean content. Following [13], +P ( $\alpha = .85$ ) was defined as satisfying the addressee's desire to maintain a favorable self-image and obtain approval from others. Utterances expressing appreciation, compliments, approval, or support were coded for this category (e.g., "*You're doing a good job*"). +N ( $\alpha = 1.00$ ) was defined as respecting the addressee's desire to maintain their autonomy without imposition from others, such as hedged requests, offering choices, apologies, pre-inquiries, and respecting/acknowledging the other's view (e.g., "*You may do as you like*"). -P ( $\alpha = .78$ ) was defined as challenging the addressee's desire for approval and closeness with others, such as flames, insults, bald disagreement, snubs, sarcasm, or jokes targeting the addressee (e.g., "*What a stupid idea from the old fossils*"). -N ( $\alpha = .90$ ) was defined as impositions on the addressee's autonomy of thinking and behaving, such as commands, requests, and ignoring or overriding another's preferences (e.g., "*Think about the essence without being swayed by what journalists say*"). Last, the code N/A ( $\alpha = .77$ ) was assigned when an utterance did not use any of the other politeness strategies (e.g., "*I feel frustrated*"). After the coded utterances were counted, the comment/reply as a whole was coded for the most frequent strategy found in its utterances (see Table 1).

**Table 1. Frequency of politeness strategies**

	Comments	Replies
+P	4 (5.7%)	21 (3%)
+N	2 (2.9%)	10 (1.4%)
-P	37 (52.9%)	416 (59.4%)
-N	10 (14.3%)	55 (7.9%)
N/A	17 (24.3%)	198 (28.3%)
Total	70 (100%)	700 (100%)

**3.2.2. Participation levels of replies.** The participation analyses used three indexes of reply activity. First, we measured the size of discussions by counting the total number of replies to each comment ( $M = 169.96$ ,  $SD = 167.60$ ). In addition, the total number of thumbs up and thumbs down votes on the comment were counted as indicators of approval/disapproval of the comment ( $M = 18141.55$ ,  $SD = 19240.55$  for thumbs up;  $M = 663.46$ ,  $SD = 671.22$  for thumbs down), as [11] measured. Second, the activity level of replies was measured. For this, the posting time of the first reply and that of the last reply in each thread were recorded, and, based on this information, the duration (in hours) was calculated. Then, the number of replies in each thread divided by the thread's duration was used as the activity level of replies to each comment ( $M = 31.99$ ,  $SD = 37.69$ ). Third, the average length of replies was measured in three ways. The average length of replies was calculated by dividing the total number of words produced by the discussants by the total number of replies in each thread ( $M = 12.67$ ,  $SD = 5.58$ ). The average length of words was calculated by dividing the total number of characters by the total number of words in each thread ( $M = 4.47$ ,  $SD = .40$ ). The average length of sentences was calculated by dividing the total number of words by the total number of sentences in each thread ( $M = 4.78$ ,  $SD = 1.43$ ).

**3.2.3. Discursive incivility of replies.** Each utterance in each reply was coded for its discursive incivility level, based on [11]'s coding scheme, which identifies five classes of uncivil speech. Name-calling ( $\alpha = .83$ ) was operationalized as the use of mean-spirited words directed at a person or a group (e.g., *"That's why they call the public idiots"*), while aspersion ( $\alpha = 1.00$ ) was defined as the use of mean-spirited words directed at an idea or behavior (e.g., *"You're just talking bullshit"*). Vulgarity ( $\alpha = .86$ ) referred to the use of language that would not be considered proper to use in professional discourse (e.g., *"Kick her out on her pompous ass"*). Lying ( $\alpha = .87$ ) was defined as unsubstantiated remarks positing that an idea or behavior was disingenuous (e.g., *"What a fabricated story to stir people up"*). Last, disparagement of speech ( $\alpha = 1.00$ ) was coded for rude remarks about the way a person communicates (e.g., *"Quit whining about how disadvantageous the law is to you"*). Finally, N/A ( $\alpha = .94$ ) was coded none of the

uncivil speech types was present. After the utterances corresponding to these categories were counted, the sum of the values was taken to be the discursive incivility level of the reply ( $M = .69$ ,  $SD = .88$ ).

**3.2.4. Types of addressees.** Each utterance in each reply was coded for six types of addressee that emerged from the data. A news-related addressee ( $\alpha = .87$ ) was defined as a person or a group covered in the article or related to the news event (e.g., *"I always feel disgusted with news about the ruling party"*). A commenter ( $\alpha = .75$ ) was operationalized as the person who posted the most-replied-to comment on the article (e.g., *"why was this comment ranked as the best comment?"*). A specific replier ( $\alpha = .75$ ) was a particular reader who had posted a reply earlier on the same comment (e.g., *"Intr why are you talking about Seoul people here"*), while general repliers ( $\alpha = .89$ ) were unspecified readers who discussed the same article (e.g., *"Look how busy these commenters are manipulating public opinion"*). A code of public ( $\alpha = .86$ ) was assigned when general people in South Korea were mentioned (e.g., *"Korean women should enter the military service"*). News reporter/publisher ( $\alpha = .80$ ) was coded when the author of the article or the news company was addressed (e.g., *"The reporter makes no sense"*). A reply addressing none of the above or an unclear addressee (e.g., *"Who should I vote for as President?"*) was coded as N/A ( $\alpha = .76$ ). After the utterances corresponding to these categories were counted, each reply was coded for the most frequent addressee among its utterances (see Table 2).

**Table 2. Frequency of addressee types**

Type	Number (Percentage)
News-related addressee	312 (44.6%)
First commenter	67 (9.6%)
Specific replier	86 (12.3%)
General repliers	37 (5.3%)
Public	64 (9.1%)
News reporter/publisher	15 (2.1%)
None/Unclear	119 (17.0%)
Total	700 (100%)

**3.2.5. Gender dominance of commenters.** As *Naver News* displays no additional identifier of commenters beyond the first four characters of their screen name, individuals' demographic information is not available. However, the website provides aggregate statistics of commenters for each article, showing what percentages of commenters each gender comprises (e.g., male commenters 82%; female commenters 18%). Although such aggregate information has not commonly been used as an indicator of gender in previous studies, as [14] found, the gender distribution of commenters can determine a forum's overall language style, including

its civility level. Thus we expect that whichever gender commented the most frequently on each article would have a significant impact on the overall tone of the discussion. For this sample, the percentages of male commenters ( $M = 71.23$ ,  $SD = 13.45$ ) and female commenters ( $M = 28.77$ ,  $SD = 13.45$ ) in each thread were recorded, and then the gender dominance of commenters was assessed for each thread. Although most articles had more male-dominant discussions than female-dominant discussions, the entertainment and life/culture sections had relatively higher proportions of female commenters than the other sections did. In all, 91.4% of the threads were male dominant, and 8.6% were female dominant.

## 4. Results

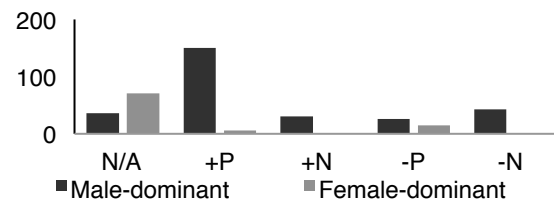
### 4.1. Participation analyses

RQ1 and RQ4a asked whether politeness strategies of comments would affect the participation level of replies, and whether such a relationship would vary with the gender dominance of commenters. One-way ANOVA tests showed that the comment politeness made no significant difference to the amount of reader responses, activity level of replies, or average length of replies (RQ1). Although not statistically significant, a consistent pattern was found whereby  $-N$  comments received more ratings and more replies than any other type of comment. Moreover, replies to  $-N$  comments were longer than those to other comments in terms of their average reply length and sentence length. Replies were posted to  $+P$  comments most actively ( $M = 41.59$ ,  $SD = 72.31$ ) and to  $-P$  comments least actively ( $M = 25.27$ ,  $SD = 26.83$ ). That is,  $+P$  comments received the largest number of replies per hour, while  $-P$  comments were responded to by the fewest repliers per hour.

Next, two-way ANOVA tests showed a significant interaction effect between comment politeness and the gender factor on the activity level of replies,  $F(2, 62) = 8.58$ ,  $p = .001$  (RQ4a; see Figure 1). The findings were especially evident in the male-dominant threads, which showed substantial differences in the activity level of replies to the five types of comments,  $F(4, 62) = 4.25$ ,  $p = .004$ . That is, when men posted more frequently than women, the activity level of replies to  $+P$  comments ( $M = 150.00$ ,  $SD = 31.43$ ) was significantly higher than that to  $+N$  comments ( $M = 30.69$ ,  $SD = 22.23$ ,  $p = .003$ ),  $-P$  ( $M = 25.55$ ,  $SD = 5.24$ ,  $p < .001$ ),  $-N$  ( $M = 42.72$ ,  $SD = 9.94$ ,  $p = .002$ ) and  $N/A$  comments ( $M = 36.16$ ,  $SD = 8.12$ ,  $p = .001$ ). Significant differences in comment type were not found in the female-dominant threads ( $p = .07$ ).

Another notable difference between the male-dominant and female-dominant discussions was in

replies to  $+P$  comments,  $F(1, 62) = 15.86$ ,  $p < .001$ .  $+P$  comments received more replies per hour than other comments when male commenters prevailed, but the female-dominant discussions showed the opposite tendency, having the lowest activity level of replies to  $+P$  comments ( $M = 5.45$ ,  $SD = 18.15$ ).<sup>1</sup> Instead,  $N/A$  comments were responded to most actively when female participation ( $M = 70.83$ ,  $SD = 5.89$ ) was higher than male participation ( $M = 36.16$ ,  $SD = 37.17$ ).

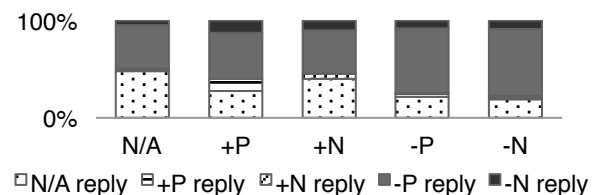


**Figure 1. Activity levels of replies (y-axis) to five types of comment politeness by gender**

### 4.2. Politeness analyses

RQ2 and RQ4b asked whether the five comment types would lead readers to respond with different politeness strategies and discursive incivility levels, and whether such effects would vary with gender. A chi-square test showed a significant relationship between the politeness strategies of comments and replies,  $\chi^2(16, n = 700) = 66.20$ ,  $p < .001$  (RQ2, see Figure 2).  $-P$  replies accounted for 59.4% of all replies, followed by  $N/A$  replies (28.3%). Specifically, the  $-P$  strategy accounted for the largest percentage of replies within each comment category (except for  $N/A$  comments), especially in the  $-N$  category (with 68.0% of replies). In contrast,  $+P$  replies (3.0%) and  $+N$  replies (1.4%) were infrequent for all comment types.

Next, one-way ANOVA tests showed that replies had different discursive incivility levels depending on the comment type they responded to,  $F(4, 695) = 3.18$ ,  $p = .01$ . Replies to  $-P$  comments ( $M = .76$ ,  $SD = .92$ ) had the most uncivil speech (name-calling, vulgarity, etc.), while replies to  $+P$  comments ( $M = .45$ ,  $SD = .64$ ) had the lowest level of discursive incivility.

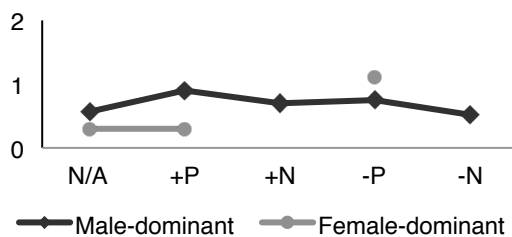


**Figure 2. Percentages of five types of reply politeness to each comment category**

<sup>1</sup> Female-dominant threads in this study had neither  $+N$  comments nor  $-N$  comments.

The politeness strategies used in comments and replies was significantly related in both male-dominant threads,  $\chi^2(16, n = 640) = 45.20, p < .001$ , and female-dominant threads,  $\chi^2(6, n = 60) = 20.07, p = .003$  (RQ4b). -P replies and N/A replies comprised most of the sample, but the former were most common when men joined in the discussion more (61.1% of replies), and the latter was more common when women did (45.0% of replies). Moreover, -P replies responded most to +P comments in the male-dominant threads (70.0%), but -P replies responded most to -P comments in the female-dominant threads (90.0%). Two-way ANOVA tests revealed a marginally significant interaction between comment politeness and gender,  $F(2, 692) = 2.75, p = .065$ .

In contrast, there was a noteworthy difference in discursive incivility of replies between the male-dominant and female-dominant threads. When male participation was higher, replies to +P comments ( $M = .90, SD = .57$ ) showed the most serious discursive incivility. When women dominated the discussion, however, replies to -P comments ( $M = 1.10, SD = .88$ ) had a much higher discursive incivility level than replies to +P or N/A comments (see Figure 3).

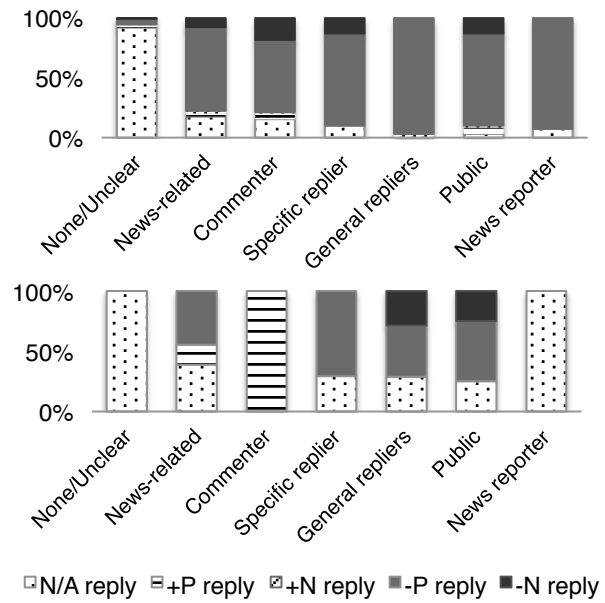


**Figure 3. Discursive incivility levels of replies (y-axis) to each comment category by gender**

Finally, RQ3 and RQ4c asked whether replies would use different politeness strategies depending on type of addressee, and whether that relationships would vary according to the gender dominance of commenters. A chi-square test showed a significant relationship between reply politeness and addressee type,  $\chi^2(24, n = 700) = 326.80, p < .001$  (RQ3). -P replies were targeted at all types of addressees, especially news reporters/publishers (86.7%) and general repliers (86.5%). Meanwhile, -N replies accounted for a relatively large percentage of replies addressing the first commenter of each thread (17.9%).

A relationship between reply politeness and addressee type was found in both male-dominant threads,  $\chi^2(24, n = 640) = 317.51, p < .001$ , and female-dominant threads,  $\chi^2(18, n = 60) = 58.59, p < .001$  (RQ4c). The male-dominant discussions had a prevalence of -P replies for all types of addressees (see Figure 4a). The female-dominant discussions had

relatively lower percentages of -P replies; instead, N/A replies were frequent for all types of addressees. Another difference was that replies targeting the first commenter of each thread strongly tended to use a +P strategy when women were dominant in the comment section (see Figure 4b). However, this finding should be interpreted with caution due to the somewhat limited data for female-dominant threads in this study.



**Figure 4. Percentages of reply types within each addressee category in the (a) male-dominant and (b) female-dominant threads**

## 5. Discussion

### 5.1. Summary

In this study, we examined the influence of the politeness of comments on the subsequent participation and politeness behavior of readers in news discussions, taking into account gender differences in the composition of the participants. The participation analyses found no significant difference in the activity level of the discussion among threads that started from different politeness strategies in the first comment. However, observation of positive politeness by commenters (+P) caused a greater number of replies to be generated per hour than other comment types did, but only when male readers dominated the discussion.

Regarding the relationship between politeness of comments and replies, replies violating positive politeness (-P replies) were prevalent for all types of comments. Replies to -P comments showed the most serious discursive incivility. When men were more active in the discussion than women, +P comments

received a larger percentage of -P replies than other types of comments, as well as the highest level of discursive incivility of replies. In the female-dominant discussions, however, it was -P comments that attracted the largest percentage of -P replies, as well as the greatest frequency of uncivil expressions.

Last, -P replies were prevalent for all types of addressees, whereas +P replies and +N replies were uncommon, particularly when men participated the most. Interestingly, the only time the +P reply strategy was strongly used was in the female-dominant discussions to address the first commenter of each thread who posted the most-replied-to comment. At the same time, replies targeting other addressees (e.g., repliers, public) violated politeness heavily, even in the female-dominant news discussions.

## 5.2. Interpretation

The finding that the overall number and frequency per hour of replies varied according to the politeness strategies of the comments they responded to suggests that a commenter's politeness behavior can function as a catalyst to induce later readers to participate more in online news discussions. This effect of politeness strategy was found with polite comments (especially +P) in the male-dominant discussions in this study, although we should also note that such comments were highly likely to receive impolite and uncivil replies, which may be an undesirable outcome. Meanwhile, the finding that comment politeness affects others' participation is partly consistent with [3], who reported that uncivil comments (vs. civil) on news stories reduced other readers' involvement in online political discussions. However, in the present study this effect was found only when considering the gender factor.

The finding that men responded actively to polite comments (vs. impolite) may be explained by [13]'s observation that men, as opposed to women, tend to value communicative ideals such as candor and freedom from censorship above politeness in public discourse, and to behave according to those values. Men may view +P comments as insufficiently critical, and male repliers who have different views from what the commenter said may tend to be more impolite to highlight their disagreement. In line with this reasoning, the finding that -P comments received more harsh replies than other types of comments in the female-dominant threads suggests that women are less tolerant of politeness violations than men are, in support of women's tendency to be sensitive to a politeness-based communication ethic [13].

Overall, violations of positive face (-P) prevailed among all replies. Nevertheless, a closer look at the percentages of replies within each comment category

showed that N/A replies accounted for the greatest percentage (47.6%) with all types of comments, +P replies accounted for the greatest percentage with +P comments (12.5%), and +N replies were the majority with +N comments (5.0%). That is, the comment category within which polite or neutral replies constituted the largest proportion coincided with the corresponding politeness strategy of the reply. These findings suggest that there is some contagion effect of politeness, although it is weak in this study, particularly when a comment uses polite or neutral language, rather than impolite language.

Although -P replies were predominant for all types of addressees, particularly in the male-dominant threads, there was a strong tendency to use a +P strategy in replies targeting the commenter in female-dominant threads. Women's greater use of positive politeness is consistent with the findings of previous research on gender and politeness [13, 16]. However, this behavior was only found in replies addressing the commenter of the thread, whereas the replies targeting other types of addressees (e.g., repliers, public) mostly used -P and -N strategies. These findings show that women do not always behave politely and suggest that they instead employ different social strategies depending on their intended addressee(s).

## 6. Conclusion

### 6.1. Limitations

It is known that men participate in online news discussions more frequently than women do [19], and this study also found higher proportions of male commenters than female commenters in the sample threads. Due to the disproportionate participation of males, our investigation of the female-dominant discussions provided limited findings (as reflected, e.g., in the absence of +N/-N comments), which might not be enough on which to base conclusions regarding gender differences. However, this limitation seems unavoidable when one employs a stratified systematic sampling method to collect equal numbers of articles from each of the seven news sections. Alternatively, a judgment or purposive sampling method could be used to capture discussion contributed by women, given that articles on politics, business, world affairs, and IT/science encourage male participation, whereas the entertainment and life/culture sections showed more engagement by female commenters.

Another limitation of this study concerns the measurement of the gender factor. We used demographic statistics in aggregate, instead of individual commenters' gender, because of privacy restrictions on personal information shared by the



website. While whether male commenters or female commenters participated more is a valid indicator of the overall discussion climate, we do not know exactly which gender posted each comment or reply.

Last, some replies in the present sample were eliminated, which could be problematic for the analysis. Some such cases seem to have occurred when repliers were threatened by later repliers and therefore decided to remove their records. For example, the reply saying “*Intr (user ID) why are you talking about Seoul people here*” targeted the earlier replier in the thread whose user ID was ‘*Intr*,’ but this user’s message no longer appeared in the thread at the time of data collection. This observation suggests that face-threatening language by repliers may hinder readers’ willingness to remain a part of news discussions. Moreover, if self-deletion of messages is common on a given platform, researchers may only have access to a broken flow of messages, which presents challenges for computer-mediated discourse analysis.

## 6.2. Implications and future directions

This study conducted a computer-mediated discourse analysis of online news comments by adopting as a theoretical approach [5]’s politeness analysis. The findings of the discursive strategies employed by news commenters and their effects on participation by subsequent discussants provide a view of the social interactions among commenters and repliers in news comment sections that extends beyond attempts to confirm the prevalence of uncivil messages [11] or explore predictors of flaming behavior [10]. Moreover, this study elucidates how commenters and repliers seek to construct and maintain a favorable public self-image and autonomy in opinion formation and respond to each other’s face wants through different discursive strategies, by going beyond the dichotomy of politeness and impoliteness [27] to distinguish between positive and negative politeness.

Although this study is situated locally in relation to a South Korean news website, the findings may be applicable to news websites in other countries. In particular, the different patterns in men’s and women’s responses to polite and impolite comments are generally consistent with previous research on gender and CMC, at the same time as they offer further insights into gender differences in uses and effects of discursive strategies in the context of online news commenting, given that the demographic distribution of news commenters reported in previous studies [35] is consistent with that of our sample threads.

This study included stories from seven news sections. In addition to attracting readers of different genders, news story contents may modulate readers’

discussion behaviors. For example, news topics [20], sources quoted in the story [11], and the impacts of news issues on users [37] may all affect the degree and quality of readers’ participation. Future research is needed to examine in detail how different news factors affect discursive strategies of commenters and repliers.

Finally, this study drew on [5]’s theory of face, which is a cornerstone of linguistic politeness theory. However, understandings of face and politeness can vary across cultures. Scholars have explored cultural variation in the notion of face in different countries [e.g., 30] and found that Koreans use different politeness strategies with addressees of different hierarchical rank and social distance, whereas Western individuals tend to be more egalitarian [9]. Meanwhile, other studies suggest that Koreans employ both avoidant and confrontational face-work to a greater extent than is suggested by cultural stereotypes [18]. Such complexities of Korean communication should be considered in future research.

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